



January 20, 2016

Mr. Bryce Bird, Director  
Utah Department of Environmental Quality  
Division of Air Quality  
195 North 1950 West  
P.O. Box 144820  
Salt Lake City, UT 84114-4820

And

Director, USEPA Region VIII  
8 ENF-AT  
1595 Wynkoop St.  
Denver, CO 80202 – 1129

RE: **Semiannual Compliance Report 40 CFR 63 SubPart UUUUU,  
Huntington Power Plant (Title V Permit #1501001004)**

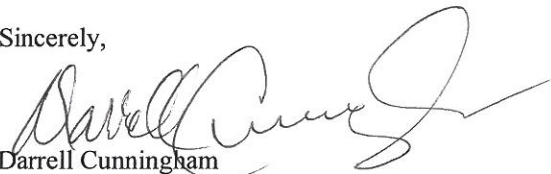
Dear Mr. Bird:

Huntington Power Plant's Title V Permit Conditions II.B.2.g.3 and II.B.3.f.3 requires the Huntington Plant submit Compliance Reports according to the requirements of 40 CFR §63.10031(b). This submittal is intended to satisfy that requirement.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information, or omitting statements and information, including the possibility of fine or imprisonment.

Should you have any questions regarding this information, please contact Richard Neilson, Huntington Power Plant Environmental Engineer at (435) 687-4334 or me at (435) 687-4211.

Sincerely,



Darrell Cunningham  
Managing Director Huntington Plant  
Responsible Official

Enclosures: Mercury and Air Toxics Semiannual Compliance Report with attachments A thru D – Unit 1  
Mercury and Air Toxics Semiannual Compliance Report with attachments A thru D – Unit 2

Mercury and Air Toxics Semi-Annual Compliance Report  
Huntington Power Plant Unit 2  
Reporting Period April 16, 2015 to December 31, 2015

**§63.100031(c)**

The compliance report must contain the information required in paragraphs (c)(1) through (5) of this section.

**§63.10031(c)(1)**

The information required by the summary report located in 63.10(e)(3)(vi).

- I. See Attachment A Summary Report—Gaseous Excess Emission and Continuous Monitoring System Performance

**§63.10031(c)(2)**

The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.

Month	#2 Fuel Oil Burned (gallons)	Bituminous Coal Burned (tons)
April (4/16/2015 to 4/30/2015)	439	58,432.6
May	341	124,930.5
June	0	119,551.1
July	9,516	122,797.0
August	17,760	123,961.6
September	380	79,824.9
October	23,927	1,258.5
November	27,813	27,834.6
December	7,042	134,030.3
<b>Total</b>	<b>87,218</b>	<b>792,620.9</b>

Note: Fuel Oil burned is a product of refineries and the coal burned is a product of coal mines therefore all fuel burned was not a waste product.

**§63.10031(c)(3)**

Indicate whether you burned new types of fuel during the reporting period. If you did burn new types of fuel you must include the date of the performance test where that fuel was in use.

- I. This is the initial compliance reporting period, the unit burned the same types of fuel as indicated in the Initial Compliance Notice Status during the reporting period which is Bituminous Coal and #2 Fuel Oil.

**§63.10031(c)(4)**

Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to § 63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown.

- I. The most recent boiler tune up was conducted on December 18, 2015 with the burner inspection occurring as part of the tune up.

§63.10031(c)(5)

For each instance of startup or shutdown:

§63.10031(c)(5)(i)

Include the maximum clean fuel storage capacity and the maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of § 63.10032(f).

- I. The clean fuel storage capacity and maximum hourly heat input data can be found in Attachment B Startup/Shutdown Report.

§63.10031(c)(5)(ii)

Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e).

- I. Information required in §63.10020(e) can be found in Attachment B Startup/Shutdown Report.

§63.10031(c)(5)(iii)

If you choose to use CEMS for compliance purposes, include hourly average CEMS values and hourly average flow rates. Use units of milligrams per cubic meter for PM CEMS, micrograms per cubic meter for Hg CEMS, and ppmv for HCl, HF, or SO<sub>2</sub> CEMS. Use units of standard cubic meters per hour on a wet basis for flow rates.

- I. The Unit is using an SO<sub>2</sub> and Hg CEMS for compliance purposes. The hourly averages during startup and shutdown periods are found in Attachment B Startup/Shutdown Report.

§63.10031(c)(5)(iv)

If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration in terms of micrograms per cubic meter.

- I. The Unit is not using a separate sorbent trap measurement system for startup or shutdown reporting periods.

§63.10031(c)(5)(v)

If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation.

- I. The Unit is not using a PM CPMS for compliance.

§63.10031(d)

For each excess emissions occurring at an affected source where you are using a CMS to comply with that emission limit or operating limit, you must include the information required in §63.10(e)(3)(v) in the compliance report specified in section (c).

§63.10(e)(3)(v)

All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of

each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in §63.8(c)(7) and §63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

§63.10(c)(5)

The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

- I. CEMS monitor unavailability can be found in Attachment C CEMS Monitor Outage Report.

§63.10(c)(6)

The date and time identifying each period during which the CMS was out of control, as defined in §63.8(c)(7);

- I. CEMS out of control periods can be found in Attachment C CEMS Monitor Outage Report.

§63.10(c)(7)

The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

- I. Excess emissions and monitor exceedances that occurred during startups, shutdowns, and malfunctions can be found in Attachment D Excess Emissions Report.

§63.10(c)(8)

The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

- I. Excess emissions and monitor exceedances that occurred during period other than startups, shutdowns, and malfunctions can be found in Attachment D Excess Emissions Report.

§63.10(c)(10)

The nature and cause of any malfunction (if known);

- I. Malfunctions nature and causes can be found in the Attachment D Excess Emission Report.

§63.10(c)(11)

The corrective action taken or preventive measures adopted;

- I. The corrective actions taken or preventive measures adopted as a result of malfunctions can be found in Attachment D Excess Emission Report.

§63.10(c)(12)

The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

- I. The nature of repairs or adjustments to CMS is found in Attachment C CEMS Monitor Outage Report.

§63.10(c)(13)

The total process operating time during the reporting period;

- I. Total process operating time during reporting period can be found in section (H) of Attachment A Summary Report—Gaseous Excess Emission and Continuous Monitoring System Performance.

§63.10031(e)

Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

- I. Any Deviations to emissions limits are identified in Attachment D Excess Emission Report
- II. There are no operating limits associated with compliance to the Mercury and Air Toxics Standards for this Unit.
- III. There were no deviations related to the Work Practice Standard related to Boiler Tune Up requirements.
- IV. CMS were in service during all phases of operation including startup according to the required Work Practice Standard except for periods identified in Attachment C CEMS Monitor Outage Report.
- V. Clean fuel was burned during each startup as required by the Work Practice Standard.

§63.10031(g)

If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded.

- I. Malfunctions during the reporting period are identified in Attachment D Excess Emissions Report

## Attachment A

### Summary Report—Gaseous Excess Emission and Continuous Monitoring System Performance

#### §63.10(e) (3) (vi) Summary Report

(A) The company name and address of the affected source;

- I. Huntington Power Plant, 6 miles west of Huntington Utah on Hwy 31  
P.O. Box 680  
Huntington, Utah 84528

(B) An identification of each hazardous air pollutant monitored at the affected source;

- I. Non-Mercury HAPS metal using a quarterly Filterable particulate matter (PM) stack test as a surrogate to demonstrate compliance
- II. Acid Gases using Sulfur dioxide (SO<sub>2</sub>) as a surrogate to demonstrate compliance by an SO<sub>2</sub> continuous emission monitor system (CEMS)
- III. Mercury (Hg), compliance demonstrated by continuous emission monitor system (CEMS)

(C) The beginning and ending dates of the reporting period;

- I. This report covers the reporting period from April 16, 2015 to December 31, 2015.

(D) A brief description of the process units;

- I. Unit 2 is an Electric Utility Steam Generating Unit, designed as a bottom tangentially-fired boiler, designed by Babcock & Wilcox.
- II. Rated Heat Input Capacity (mmBtu/hr) of 4,960 MMBtu/hr.
- III. The unit is equipped with the following add-on controls
  - a. Pulse Jet Fabric Filter (baghouse)
  - b. Wet Flue Gas Desulfurization (wet scrubber)
  - c. LowNOx burner technology, w/Seperated overfire air
- IV. Fuels used are bituminous coal and #2 fuel oil for startup fuel when needed.

(E) The emission and operating parameter limitations specified in the relevant standard(s);

- I. Taken from Table 2 to Subpart UUUUU of Part 63 – Emission Limits

Unit 2 is an existing unit in the coal-fired not low rank virgin coal subcategory demonstrating compliance with the following emission limits:

- i. Filterable particulate matter (PM) quarterly stack testing demonstrating compliance with 3.0E-2 lb/MMBtu (0.030 lb/MMBtu) emission limit.



- ii. Sulfur dioxide (SO<sub>2</sub>) continuous emission monitor system (CEMS) reporting hourly averages in units of lb/mmBtu, as a surrogate for acid gases demonstrating compliance with a 30 boiler operating day average of 2.0E-1 lb./MMBtu (0.20 lb./mmBtu).
- iii. Mercury (Hg) continuous emission monitor system (CEMS) reporting hourly averages in units of lb/Tbtu demonstrating compliance with a 30 boiler operating day average of 1.2E0 lb./TBtu (1.2 lb./TBtu).

(F) The monitoring equipment manufacturer(s) and model number(s);

Pollutant	Manufacture	Model Number
Sulfur Dioxide (SO <sub>2</sub> )	Thermo	43i
Mercury (Hg)	Thermo	80i
Carbon Dioxide (CO <sub>2</sub> )	Thermo	410i

Note: CO<sub>2</sub> analyzer used as a diluent monitor for calculating Heat Input Based Emission Limits

(G) The date of the latest CMS certification or audit;

CEMS Analyzer	Latest RATA Date	Latest Linearity Date
Sulfur Dioxide (SO <sub>2</sub> )	12/2/2015	12/16/2015
Mercury (Hg)	5/13/2015	12/9/2015
Carbon Dioxide (CO <sub>2</sub> )	12/2/2015	12/16/2015

Note: The SO<sub>2</sub> and CO<sub>2</sub> analyzers were certified for reporting under the Acid Rain Program prior to the initial compliance date of April 16, 2015. The Hg analyzer initial certification was on May 13, 2014.

(H) The total operating time of the affected source during the reporting period;

Operating Period	Hours of Unit Operation
4/16/2015 to 6/30/2015 2 <sup>nd</sup> Quarter	1824
7/1/2015 to 9/30/2015 3 <sup>rd</sup> Quarter	1878
10/1/2015 to 12/31/2015 4 <sup>th</sup> Quarter	1028.1
<b>Total Operating time from 4/16/2015 to 12/31/2015</b>	<b>4730.1</b>

- (I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

<b>Excess Emissions Summary</b>	<b>PM</b>	<b>SO<sub>2</sub></b>	<b>Hg</b>
Total Hours of Exceedance	0	0	0
Exceedance percent of total operating hours	0.0	0.0	0.0
Hours during startup and shutdown	0	0	0
Hours during control equipment problems	0	0	0
Hours during process hours	0	0	0
Hours during other know problems	0	0	0
Hours during unknown causes	0	0	0
Emission Limit	0.030	0.20	1.2
Emission Limitation Unit	lb/MMBtu	lb/MMBtu	Lb/TBtu
Emission limitation averaging period	Quarterly Stack Testing	30 boiler operating day	30 boiler operating day

- (J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;


<b>CMS Performance Summary</b>	<b>SO<sub>2</sub></b>	<b>Hg</b>
Downtime percent of total operating hours	0.04	2.94
Total hour of CMS downtime	2	139
Hours due to monitoring equipment malfunctions	0	107
Hours due to non-monitoring equipment malfunctions	0	0
Hours due to quality assurance/quality control calibrations	0	30
Hours due to other known causes	2	2
Hours due to other unknown causes	0	0

- (K) A description of any changes in CMS, processes, or controls since the last reporting period;

This is the initial reporting period.



(L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

A handwritten signature in black ink, appearing to read "Darrell J. Cunningham", written over a horizontal line.

Darrell J Cunningham  
Responsible Official  
Managing Director – Huntington Power Plant

(M) The date of the report.

Date: 1/20/16

**Attachment B**  
**Startup/Shutdown Report**

§63.10031(c)(5)

For each instance of startup or shutdown:

§63.10031(c)(5)(i)

Include the maximum clean fuel storage capacity and the maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of §63.10032(f).

- I. Total Fuel Oil Storage Capacity for the facility is 210,000 gallons

§63.10032(f)(3)

You must keep records of the determination of the maximum hourly clean fuel heat input and of the hourly clean fuel heat input for each EGU

- I. Maximum Fuel Oil Heat Input is 138,911 BTU/gal  
II. Hourly Fuel Oil Heat Input is reported in each startup/shutdown reports below

§63.10031(c)(5)(ii)

Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e).

§63.10020(e)

§63.10020(e)(1)

During each period of startup, you must record for each EGU:

§63.10020(e)(1)(i)

The date and time that clean fuels being combusted for the purpose of startup begins;

§63.10020(e)(1)(ii)

The quantity and heat input of clean fuel for each hour of startup;

§63.10020(e)(1)(iii)

The electrical load for each hour of startup;

§63.10020(e)(1)(iv)

The date and time that non-clean fuel combustion begins; and

§63.10020(e)(1)(v)

The date and time that clean fuels being combusted for the purpose of startup ends.

- I. Information for Unit startups are found in each startup/shutdown report below

§63.10020(e)(2)

During each period of shutdown, you must record for each EGU:

§63.10020(e)(2)(i)

The date and time that clean fuels being combusted for the purpose of shutdown begins;

§63.10020(e)(2)(ii)

The quantity and heat input of clean fuel for each hour of shutdown;

§63.10020(e)(2)(iii)

The electrical load for each hour of shutdown;

§63.10020(e)(2)(iv)

The date and time that non-clean fuel combustion ends; and

§63.10020(e)(2)(v)

The date and time that clean fuels being combusted for the purpose of shutdown ends.

- I. Information for Unit shutdowns are found in each startup/shutdown report below.

§63.10020(e)(3)

For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.10011(l).

§63.10020(e)(3)(i)

Except for an EGU that uses PM CEMS or PM CPMS to demonstrate compliance with the PM emissions limit or that has LEE status for filterable PM or total non-Hg HAP metals for non- liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), or individual non-mercury metals CEMS you must:

§63.10020(e)(3)(i)(A)

Record temperature and flow rate of post-combustion (exhaust) gas and amperage of forced draft fan(s) upstream of each filterable PM control device during each hour of startup.

- I. Post Combustion hourly gas temperature and flow rates and force draft fan amps are found in each of the startup/ shutdown reports below.

§63.10020(e)(3)(i)(B)

Record temperature and flow rate of exhaust gas and amperage of induced draft fan(s) downstream of each filterable control device during each hour of startup.

- I. Downstream Baghouse hourly gas temperature and flow rates and induced draft fan amps are found in each of the startup/ shutdown reports below.

§63.10020(e)(3)(i)(C)

For an EGU with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

- I. A precipitator is not installed on the Unit.

§63.10020(e)(3)(i)(D)

For an EGU with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

- I. Hourly baghouse data is found in each of the startup/shutdown reports below.

§63.10020(e)(3)(i)(E)

For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to fuel ratio and the differential pressure of the liquid during each hour of startup.

- I. A wet scrubber is installed on the Unit however a baghouse is the PM control device for the unit.

During the reporting period the Unit experience the following startup/shutdown periods (detailed reports for each period are found below:

Event Number	Shutdown Date	Startup Date
1	7/29/2015	7/29/2015
2	8/5/2015	8/7/2015
3	8/7/2015	8/7/2015
4	9/19/2015	10/30/2015
5	10/31/2015	11/20/2015
6	11/21/2015	11/21/2015
7	12/18/2015	12/18/2015
8	12/31/2015	1/3/2016*

\*Startup report for Event #8 will be provided in the next semi-annual report, due Jul 30, 2016.

Detailed startup/shutdown reports follow:

# **Shutdown**

Event # 1

Unit	2
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Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	7/29/2015	0:41
Start of Fuel Oil for Shutdown	7/29/2015	na
End of Coal Combustion	7/29/2015	0:41
End of Fuel Oil Combustion	7/29/2015	na

Unit Trip

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg (µg/scm)	SO2 (ppm)	Unit load (GMWH)
0:00	0	0	0.147	28.7	269

\* = Mountain Standard Time

## Event # 1

	Date	Time*
Start of Fuel Oil Combustion	7/29/2015	7:41
Start of Coal Combustion	7/29/2015	7:47
End of Fuel Oil Combustion	7/29/2015	15:37
Date and Time Unit on Line	7/29/2015	9:44

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

[illegible]

\*=Mountain Standard Time  
\*\*=Gross Heating value - fuel log maximum ytd



**Shutdown**

Event # 2

Unit	2
------	---

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	8/5/2015	23:55
Start of Fuel Oil for Shutdown	8/5/2015	22:44
End of Coal Combustion	8/5/2015	23:26
End of Fuel Oil Combustion	8/5/2015	23:35

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu\text{g}/\text{scm}$ )	SO2 (ppm)	Unit load (GMWH)
23:00	1114	154746854	0.205	5.1	79

\* = Mountain Standard Time

Unit	2
------	---

2

	Date	Time*
Start of Fuel Oil Combustion	8/7/2015	11:52
Start of Coal Combustion	8/7/2015	14:14
End of Fuel Oil Combustion	8/7/2015	14:32
Date and Time Unit on Line	8/7/2015	14:32

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

[illegible]

\*\*=Gross Heating value - fuel log maximum ytd

**Shutdown**

Event # 3

Unit	2
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Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	8/7/2015	18:44
Start of Fuel Oil for Shutdown	8/7/2015	NA
End of Coal Combustion	8/7/2015	18:43
End of Fuel Oil Combustion	8/7/2015	NA

(unit trip)

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu\text{g}/\text{scm}$ )	SO <sub>2</sub> (ppm)	Unit load (GMWH)
18:00	0	0	0.205	26.9	224

\* = Mountain Standard Time

### Event # 3

	Date	Time*
Start of Fuel Oil Combustion	8/7/2015	19:12
Start of Coal Combustion	8/7/2015	21:03
End of Fuel Oil Combustion	8/7/2015	20:53
Date and Time Unit on Line	8/7/2015	20:54

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

[illegible]

\*=Mountain Standard Time

\*\*=Gross Heating value - fuel log maximum ytd

**Shutdown**

Event # 4

Unit	2
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Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	9/19/2015	0:26
Start of Fuel Oil for Shutdown	9/18/2015	23:31
End of Coal Combustion	9/19/2015	0:12
End of Fuel Oil Combustion	9/19/2015	0:26

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu\text{g}/\text{scm}$ )	SO2 (ppm)	Unit load (GMWH)
0:00	954	132521094	0.296	0	1

\* = Mountain Standard Time

## Startup

Event # 4

Unit	2
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	Date	Time*
Start of Fuel Oil Combustion	10/29/2015	22:54
Start of Coal Combustion	10/30/2015	8:47
End of Fuel Oil Combustion	10/30/2015	13:06
Date and Time Unit on Line	10/30/2015	7:57

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

Hour	Startup Fuel		Post Combustion pre Baghouse			Downstream Baghouse			Baghouse		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Temperature (Deg F)	Flow Rate (scmh)	FD Fan Amps (each/avg)	Temperature (Deg F)	Flow Rate (scmh)	ID Fan Amps (avg)	Number of Compartments in Service	Differential Pressure Across the Baghouse (in H <sub>2</sub> O) (avg)	Hg (µg/scm)	SO <sub>2</sub> (ppm)	
22:00	403.0	55981133	53	945036	155.0	74	945036	515.0	5	4.81	0.205	0.4	0
23:00	978.2	135882740.2	55	945036	206.0	74	945036	628.0	5	5.86	0.204	0.4	0
0:00	1141.0	158497451	60	945036	204.0	78	945036	627.0	5	6.24	0.197	0.4	0
1:00	2074	288101414	82	945036	207	90	945036	613	5	7.23	0.188	0.4	0
2:00	2088	290046168	107	850161	209	107	850161	598	5	7.82	0.466	0.7	0
3:00	1788	248372868	120	864901	207	120	864901	579	5	7.00	0.386	0.5	0
4:00	1467	203782437	136	870251	207	130	870251	571	5	6.96	0.721	0.7	0
5:00	2055	285462105	136	877822	207	135	877822	571	5	7.20	0.624	0.8	0
6:00	2162	300325582	140	874994	208	137	874994	569	5	7.35	0.469	0.8	0
7:00	1954	271432094	146	811817	202	142	811817	565	5	7.37	0.320	0.7	1

\*—Mountain Standard Time

\*\*—Gross Heating value - fuel log maximum ytd



**Shutdown**

Event # 5

Unit	2
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Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	10/31/2015	2:35
Start of Fuel Oil for Shutdown	10/31/2015	None
End of Coal Combustion	10/31/2015	2:35
End of Fuel Oil Combustion	10/31/2015	None

Unit trip

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu\text{g}/\text{scm}$ )	SO2 (ppm)	Unit load (GMWH)
2:00	0	0	0.218	28.9	136

\* = Mountain Standard Time

## Startup

Event # 5

Unit	2
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Start of Fuel Oil Combustion	Date	Time*
Start of Fuel Oil Combustion	11/20/2015	6:00
End of Fuel Oil Combustion	11/21/2015	2:41
Date and Time Unit on Line	11/20/2015	22:13

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

Hour	Startup Fuel		Post Combustion pre Baghouse			Downstream Baghouse			Baghouse		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/lhr)	Temperature (Deg F)	Flow Rate (scmh)	FD Fan Amps (each/avg)	Temperature (Deg F)	Flow Rate (scmh)	ID Fan Amps (avg)	Number of Compartments in Service	Differential Pressure Across the Baghouse (in H <sub>2</sub> O) (avg)	Hg (µg/scm)	SO <sub>2</sub> (ppm)	
6:00	507.0	70431606.09	70	938502	211	71	938502	524	3	12.78	Monitor	0.9	Unit load (GMVWH)
7:00	815.6	113300363	71	877544	207	77	877544	518	3	12.53	Unavailable	0.9	0
8:00	753.4	104650290.6	72	874420	206	81	874420	516	3	12.27	Monitor	0.9	0
9:00	713.8	99148593.15	73	896229	208	84	896229	519	3	12.29	Unavailable	0.8	0
10:00	1865.1	259088626.9	77	885114	208	87	885114	514	3	13.18	Monitor	0.9	0
11:00	2204.3	306201960.4	106	859102	205	103	859102	504	3	14.66	Unavailable	0.9	0
12:00	2293.6	318611650.4	133	870288	205	121	870288	498	3	15.59	Monitor	1.0	0
13:00	1384.140154	192272292.9	146	883482	207	133	883482	505	3	16.75	Unavailable	0.9	0
14:00	938.5540561	130375482.5	151	888576	208	140	888576	506	3	16.88	Monitor	0.9	0
15:00	1225.16273	170188580	147	883113	208	140	883113	478	4	5.63	Unavailable	0.8	0
16:00	1595.944368	221694228.1	147	870093	207	143	870093	466	4	4.14	Monitor	0.8	0
17:00	1569.358198	218001116.7	154	858936	200	146	858936	464	4	4.33	Unavailable	0.7	0
18:00	1112.64637	154558819.9	164	878524	201	154	878524	458	4	4.86	Monitor Unav	0.5	0
19:00	481.6549346	66907168.61	141	874920	207	146	874920	467	4	4.41	0	0.6	0
20:00	251.4369961	34927364.57	139	881307	207	142	881307	469	4	4.24	0	0.6	0
21:00	1130.735117	157071545.8	154	869501	200	146	869501	459	4	4.31	0	0.7	0
22:00	1321.583795	183582526.5	173	851171	195	158	851171	450	4	4.31	0.541	4.1	39

\*\*=Mountain Standard Time

\*\*=Gross Heating value - fuel log maximum ytd

**Shutdown**

Event # 6

Unit	2
------	---

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	11/21/2015	0:10
Start of Fuel Oil for Shutdown	11/21/2015	NA
End of Coal Combustion	11/21/2015	0:10
End of Fuel Oil Combustion	11/21/2015	NA

Unit Trip

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg (µg/scm)	SO2 (ppm)	Unit load (GMWH)
0:00	0	0	0.043	1.3	8

\* = Mountain Standard Time

NOTES: Unit tripped and startup was attempted within the same hour of trip. No oil was burned during shutdown. Oil was burned within the hour, but only for startup.

Startup

Event # 6

Unit	2
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	Date	Time*
Start of Fuel Oil Combustion	11/21/2015	0:30
Start of Coal Combustion	11/21/2015	1:19
End of Fuel Oil Combustion	11/21/2015	2:46
Date and Time Unit on Line	11/21/2015	1:17

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

Hour	Startup Fuel			Post Combustion pre Baghouse			Downstream Baghouse			Baghouse		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)		Temperature (Deg F)	Flow Rate (scmh)	FD Fan Amps (each/avg)	Temperature (Deg F)	Flow Rate (scmh)	ID Fan Amps (avg)	Number of Compartments in Service	Differential Pressure Across the Baghouse (in H <sub>2</sub> O) (avg)	Hg (ug/scm)	SO <sub>2</sub> (ppm)	Unit load (GMWH)
0:00	1800.0	250039800		170	964639	210.0	159	964639	463.0	4	4.36	0.043	1.3	8
1:00	1860.0	258374460		176	1027440	226.0	172	1027440	485.0	4	4.50	0.211	2.8	50

\*=Mountain Standard Time

\*\*=Gross Heating value - fuel log maximum yrd

NOTES: Unit tripped and startup was attempted within the same hour of trip. No oil was burned during shutdown. Oil was burned within the hour, but only for startup.

**Shutdown**

Event # 7

Unit	2
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Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	12/18/2015	13:27
Start of Fuel Oil for Shutdown	12/18/2015	na
End of Coal Combustion	12/18/2015	13:27
End of Fuel Oil Combustion	12/18/2015	na

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu\text{g}/\text{scm}$ )	SO <sub>2</sub> (ppm)	Unit load (GMWH)
13:00	0	0	0.084	25.4	201

\* = Mountain Standard Time

NOTES: Unit tripped and startup was attempted within the same hour of trip. No oil was burned during shutdown. Oil was burned within the hour, but only for startup.

Startup  
Event # 7

Unit	2
------	---

Hour	Date	Time*
Start of Fuel Oil Combustion	12/18/2015	13:27
Start of Coal Combustion	12/18/2015	17:40
End of Fuel Oil Combustion	12/18/2015	19:53
Date and Time Unit on Line	12/18/2015	17:47

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)**	138911

Hour	Startup Fuel		Post Combustion pre Baghouse			Downstream Baghouse			Baghouse		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Temperature (Deg F)	Flow Rate (scmh)	FD Fan Amps (each/avg)	Temperature (Deg F)	Flow Rate (scmh)	ID Fan Amps (avg)	Number of Compartments in Service	Differential Pressure Across the Baghouse (in H <sub>2</sub> O) (avg)	Hg (µg/scm)	SO <sub>2</sub> (ppm)	
13:00	331.0	45979541	182	1794114	185.9	217	1794114	453.8	8	2.20	0.084	25.4	201
14:00	940.4	130634682.6	190	1121261	178.5	210	1121261	443.1	8	2.20	0.164	0.4	0
15:00	340.0	47229740	148	1105513	182.6	186	1105513	454.1	4	4.90	0.117	0.4	0
16:00	460.0	63899060	138	1129522	183.0	170	1129522	460.9	4	5.10	0.133	0.4	0
17:00	1563.0	217117893	163	1034147	166.2	174	1034147	444.7	4	9.50	0.182	0.4	12

\*=Mountain Standard Time

\*\*=Gross Heating value - fuel log maximum yld

NOTES: Unit tripped and startup was attempted within the same hour of trip. No oil was burned during shutdown. Oil was burned within the hour, but only for startup.



**Shutdown**

Event # 8

Unit	2
------	---

Total Fuel Oil Storage Capacity (gal)	210000
Maximum Fuel Oil Heat Input (BTU/gal)	138911

	Date	Time*
Date and Time Unit off Line	12/31/2016	22:10
Start of Fuel Oil for Shutdown	12/31/2016	21:24
End of Coal Combustion	12/31/2016	22:00
End of Fuel Oil Combustion	12/31/2016	22:11

Hour *	Shutdown Fuel		Emissions		Load
	Quantity Fuel Oil burned (gals/hr)	Fuel Oil Heat Input (BTU/Hr)	Hg ( $\mu$ g/scm)	SO2 (ppm)	Unit load (GMWH)
22:00	143	19864273	0.06	0.2	8

\* = Mountain Standard Time

**Attachment C**

**CEMS Monitor Outage Report**

**Sulfur Dioxide (SO<sub>2</sub>) System Monitor Outage (lb/MMBtu)**

<b>Monitor Outage Incident Number</b>	<b>Date</b>	<b>Time Beginning</b>	<b>Time Ending</b>	<b>Hours Involved</b>	<b>Out of Control (Y / N)</b>	<b>Cause*</b>	<b>Corrective * Action</b>
1	10/31/2015	04:00	04:59	1	N	724	a
2	12/18/2015	15:00	15:59	1	N	724	a

Total duration of monitor downtime   2   hours

**Description of Causes/Corrective Actions.**

<b>*Cause: 724</b>	<b>Hours due to other known causes</b>
<b>*Corrective Action: a</b>	The Data Management System (DMS) was temporarily out of service in order to download software revisions, re-boot the server or individual CEMS, hardware fault, or DCS communication failure.

**Mercury (Hg) System Monitor Outage (lb/TBtu)**

<b>Monitor Outage Incident Number</b>	<b>Date</b>	<b>Time Beginning</b>	<b>Time Ending</b>	<b>Hours Involved</b>	<b>Out of Control (Y / N)</b>	<b>Cause*</b>	<b>Corrective* Action</b>
1	5/14/2015	12:00	12:59	1	N	723	f
2	5/15/2015	13:00	13:59	1	N	723	kk
3	5/18/2015 to 5/19/2015	05:00	17:59	33	Y	721	a
4	7/01/2015	10:00	14:59	5	N	723	jj
5	8/12/2015	7:00	07:59	1	N	723	jj
6	10/31/2015	4:00	04:59	1	N	724	a
7	11/20/2015	6:00	17:59	12	Y	721	a
8	11/23/2015	12:00	15:59	4	N	723	k
9	11/24/2015	05:00	20:59	16	Y	721	a
10	11/25/2015	10:00	14:59	5	N	723	k
11	11/26/2015	5:00	22:59	18	Y	721	a
12	11/27/2015	5:00	10:59	6	Y	721	a
13	11/29/2015	5:00	22:59	18	Y	721	a
14	11/30/2015	11:00	11:59	1	N	723	kk
15	12/1/2015	9:00	10:59	2	N	723	kk
16	12/15/2015	11:00	15:59	5	Y	723	kk
17	12/18/2015	15:00	15:59	1	N	724	a
18	12/22/2015	11:00	11:59	1	N	723	kk
19	12/29/2015	11:00	14:59	4	Y	723	kk

Total duration of monitor downtime   139   hours

See Next Page for description of Causes/Corrective Actions.

Description of Causes/Corrective Actions.

*Cause: 721	Hours due to monitoring equipment malfunctions
*Corrective Action: a	The monitor failed its daily calibration drift test by more than 4 times the performance specification. The monitor was cleaned/inspected/ recalibrated and returned to service.
*Cause: 723	Hours due to quality assurance/quality control calibrations
*Corrective Action: a	The monitor was unavailable during the daily monitor calibration as required by 40 CFR parts 60 and 75.
f	Manually recalibrated the analyzer. An auto calibration was then initiated and the system returned to service.
k	The monitor reaction chamber was cleaned and inspected. An auto calibration was then initiated and the monitor returned to service.
v	Monitors were unavailable while maintenance was being performed on the sample transport system, lines, valves, conditioner, pumps, etc. After completion system was returned to service.
jj	Quarterly calibrator audit, followed by calibration.
kk	Weekly integrity and/or monthly oxidizer tests on the mercury CEMS.
*Cause: 724	Hours due to other known causes
*Corrective Action: a	The Data Management System (DMS) was temporarily out of service in order to download software revisions, re-boot the server or individual CEMS, hardware fault, or DCS communication failure.

## Attachment D

### Excess Emissions Report

#### PM Excess Emissions

0.030 lb/MMBtu (Quarterly Stack Testing)

Excess Emission Incident Number	Magnitude of Excess Emissions lb/MMBtu	Date	Time Beginning	Time Ending	Hours Involved	Malfunction Y/N	Cause	Corrective Action

Total time for all excess emissions 0.0 hours

Total time for excess emissions occurring during startup/shutdown or malfunction  
0.0 hours

Malfunction reason and corrective /preventive action taken)

No PM Excess Emissions occurred during the reporting period

No PM Malfunction occurred during the reporting period

#### SO<sub>2</sub> Excess Emissions

0.20 lb/MMBtu (30 Boiler Operating Day Average)

Excess Emission Incident Number	Magnitude of Excess Emissions lb/MMBtu	Date	Time Beginning	Time Ending	Hours Involved	Malfunction Y/N	Cause	Corrective Action

Total time for all excess emissions 0.0 hours

Total time for excess emissions occurring during startup/shutdown or malfunction  
0.0 hours

Malfunction reason and corrective /preventive action taken)

No SO<sub>2</sub> Excess Emissions occurred during the reporting period

No SO<sub>2</sub> Malfunction occurred during the reporting period

**Hg Excess Emissions**

1.2 lb/TBtu (30 Boiler Operating Day Average)

Excess Emission Incident Number	Magnitude of Excess Emissions lb/MMBtu	Date	Time Beginning	Time Ending	Hours Involved	Malfunction Y/N	Cause	Corrective Action

**Total time for all excess emissions 0.0 hours****Total time for excess emissions occurring during startup/shutdown or malfunction  
0.0 hours****Malfunction reason and corrective /preventive action taken)**

No Hg Excess Emissions occurred during the reporting period

No Hg Malfunction occurred during the reporting period